Chapter 0. Outreach and Education

Outreach and Education for Water Management in California

WORKSHOP OPEN DRAFT
NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Defines what Outreach and Education for Water Management is.
2. Explains how water related Outreach and Education is in managed in California.
3. Demonstrates the very different approaches to Outreach and Education based on the purpose of the effort
4. Makes case that Outreach and Education is a concern of water managers. Example: Getting through a 218 process, election.

Please read this section for:

- ☐ Accuracy
- ☐ Accessibility of language (no jargon)
- ☐ Flow of text (does the flow generally make sense?)
- ☐ Logical segmentation (the descriptions are written by the type of management, are these the best categories to explain the management approach? What, if anything should be added, subtracted of changed?)

Bulleted formatted, potential benefits, two broad ways, jumps about, outline form, use headings.

Outreach and Education for water management in California is the use of tools and practices that allow groups and individuals to contribute to good water management outcomes by:

- Adopting water wise practices
- Contributing insight to decision-makers on the best approaches for water management.
- Supporting activities that result in beneficial water management outcomes
- Promoting collaboration and interdisciplinary approaches to problem solving
- Resolving conflicts and addressing multiple interests and needs
- Ensuring access to water management information and decision making.

Effect change, make a difference.

Missing the point – for successful implementation of other RMS, need to do this, bring forward
Very negative tone, focuses too much on damages, makes people sound ignorant
Look at INTENT

Engagement may be a better view than outreach, agency staff may be educated by public, more about engagement and less about outreach, less about agency staff doing the education. (Seconded – more about information flow going both ways, more of focus on listening, learning as much both way.)

At the time of early Water Plans and the building of California's massive water infrastructure, decisions makers primarily relied on engineering expertise as the best method to achieve positive water outcomes and resolve problems. This approach worked well at meeting single purpose engineering goals, but it damaged or destroyed ecosystems and created social injustices as unintended by-products.

Over time, as the demands on water management systems have increased and understanding of the complexity of the water systems has grown, the need for engineers and technical experts (have scientists from universities, very clear, drive collaborative back to practitioners, local knowledge) to engage others in achieving optimum results has become more apparentcouple things – working with collaboratives, dealing with sense of lack of acceptance for science, because of where science starts, where does report start from, doesn't include history (seconded – oral histories from local farmers, recollections of historic streams, wells, springs to establish natural history, seen as harmless), start with where the report becomes technical and that is the engineering baseline.. In the past few decades, citizens were given legal tools that allow them to block water management projects that counter their environmental interests; both CEQA and the Clean Water Act have citizen suit provisions. Through the referendum process, voters passed Proposition 218, which gives ratepayers a way to protest rate increases. Since the 2000s, increasing internet use and the advent of social media have made organizing people and transferring information easier than ever. With these broad societal changes, water managers have found that a traditional engineering approach developed without consulting the public can suddenly become a focus of negative attention as interest groups draw attention to aspects of a project they don't like. A way to avoid project-derailing surprises is to use community outreach and education to develop projects that address multiple interests from the first and get community buy-in for the goals of the project. (Project is mentioned several time, broaden to programs, policies) (Need for Tribal input & using curricula (K12 and college)

(Bring in other people to play role, public health or community educators, encompass other things, values and ethical perspectives, making sure information isn't disregarded outright, such as longer term views, community's greater perspective.)

This direction has been confirmed by the California Legislature and the Executive Branch through requirements for open and transparent decision making and access to public records, specific instructions to convene advisory committees and conduct public outreach, and legal requirements for notification and hearings on key topics, such as prescribed in the California Environmental Quality Act. At the federal level, the National Pollutant Discharge Elimination System (NPDES) has regulatory requirements for Education and Outreach about non-point source pollution. The EPA writes

> "It takes individual behavior change and proper practices to control such pollution. Therefore it is important to make the public sufficiently aware and concerned about the significance of their behavior for stormwater pollution, through information and education, that they change improper behaviors.
>
> Phase II MS4s are required to educate their community on the pollution potential of common activities, and increase awareness of the direct links between land activities, rainfall-runoff, storm drains, and their local water resources. Most importantly the requirement is to give the public clear guidance on steps and specific actions that they can take to reduce their stormwater pollution-potential."

In addition to reaching the broader public, Education and Outreach can also be targeted toward specific fields or professionals. The California Dairy Quality Assurance Program and the UC Cooperative Extension do education and outreach on the Central Valley's General Order for Existing Milk Cow Dairies. The Central Valley Water Board has a high opinion (subjective – perhaps say supports) of the program and attributes the successful implementation of the Order as partly due to the education program. (See webpage at: http://cdrf.org/home/checkoff-investments/cdqap/) Another program that is considered successful is the Ranch Water Quality Planning Short Course which promotes the California Rangeland Water Quality Management Plan1. An update of how the program has done is found on the San Francisco Bay Water Board's website at: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/tomalesbaypathogenstmdl.shtml
In the San Francisco Bay Area, the program was used to implement a pathogen TMDL on Tomales Bay where the impairment was at least partially due to grazing activities.

Text box 1. Recommendation 9 from the 2009 Water Plan Update, Volume 1 – Chapter 2

9. California should increase public understanding and awareness of where our water comes from as well as the value and importance of water, water quality, and water conservation to people, ecosystems, and California's economy.

Water is a limited resource, and State government needs to do more to assist water agencies, local governments, and other partners, such as Tribes and non-governmental organizations, in developing and disseminating information about the importance of water issues, including water supply, water quality, and ecosystem health. Despite experiencing significant droughts and floods, Californians are not sufficiently aware of the critical issues confronting them. It is the responsibility of State government to help the public understand (State government has a role – takes away emphasis from the locals, how to convey message) the importance of efficient water use, how to protect water

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1 http://www.waterboards.ca.gov/publications_forms/publications/general/docs/ca_rangeland_wqmgmt_plan_july1995.pdf

quality, how their actions can benefit or harm the watersheds from which they receive their water and the watersheds in which they live, play, and work.

DWR and other State agencies should make public outreach and education a priority and achieve efficient dissemination of information by forming partnerships with those experienced in water and resource education and media. Outreach should include high-quality, balanced water information, including programs as part of early grade school education. With education, Californians will have a better understanding of where their water comes from, the value and importance of water, challenges and opportunities to ensuring the co-equal goals of water supply, quality, and ecosystem health. They also will have a better understanding of the benefits, costs, and impacts of the array of resource management strategies described in Volume 2, and especially water conservation and water use efficiency, which must become a public ethic.

Emphasize that communication works best locally)

Don't see a mention of population change, demands will change and outreach and education has to deal with that. Geographic dispersal, the regional interests have to be part of the discussion, political and personal differences)

On controversial topics, people need to know they've been heard, lay out competing interests, once they know they've been heard, they can participate.)

The overall goal of water education is to develop more knowledgeable citizens who can participate in public discussion and debate about water issues. Information improves people's ability to examine and evaluate information presented — and the information that is not presented. With a basic understanding of water, residents can respond intelligently (Implies that's not what they're doing now, sounds negative) to issues such as the need to develop water supplies or wastewater treatment facilities, the benefits and costs of conservation, the dangers associated with leaking contaminants, the risks posed by poor water quality, the benefits and costs of river restoration or flood control. With education and information, people can form their own opinions based on data and information. Do we want them to have opinions or make more informed choices.)

The degree of engagement and methods used are tied to the goals of effort and the individuals involved. Outreach and Education efforts may range from informing and educating to empowering, and the tools used mirror the goals of engagement. The International Association of Public Participation (IAP2)[i] provides a broadly accepted framework on the levels of engagement as follows:

Level	Goal	Public Expectation	Tools
Inform, Educate	Provide information about problems,	Water managers will provide balanced and objective	• Websites • Fact sheets

	solutions, alternatives, opportunities, and solutions related to water in California.	information to the public.	• Open houses/townhall • e-News • Newsletters/Alerts • Use public libraries, designated (gov't) section/ provide webinar facilities in libraries
Consult	Obtain public feedback on analysis, alternatives, and/or decisions regarding water in California.	Water managers will provide information, will listen and acknowledge public concerns and aspirations, and provide feedback on how public input influenced the decision.	• Public comment • Focus groups • Surveys • Public meetings • Social media participation
Involve	Work with the public to ensure public concerns and aspirations are understood, and considered by water managers.	Water managers will work to ensure that public input informs alternatives and provide feedback on how public input influenced the decision.	• Workshops/townhall • Deliberative polling Social media/webinars
Collaborate	Partner with the public to develop alternatives and identify preferred solutions for water in California.	Water managers will ask for advice and ideas from the public, and will use public try to include public input when making decisions.	• Advisory Committees • Caucuses • Include plan alternatives in EIR processes
Empower	Provide the public the opportunity to make decisions related to water in California.	Water managers will implement or support public decisions.	• Convene forums as requested, when possible • Support local and regional action

The US EPA and others have also developed agency specific frameworks and these are widely used by public participation professionals. Similar frameworks and tools exist for water educators and public relations professionals.

The characteristics of a successful Outreach and Education strategy are:

- Relevant – contributes to the missions, goals, and objectives of partner organizations.

- Focused – goals are measurable, achievable, and targeted toward improving social, economic, environmental, or civic conditions.
- Scale-appropriate – designs approaches at local, state, multi-state, or national scales, effectively addressing the program focus
- Innovative – integrates research findings and collegial knowledge and experience
- Collaborative – cultivates and nurtures authentic and appropriately diverse partnerships.
- Integrated or incorporating research-based knowledge and methods – brings together the components of the l knowledge system (research, education, and application) around a problem or issue (needs to be clarified).
- Adaptive – develops and implements continuous feedback and improvement strategies that include strong program planning and evaluation components, and exchanges information about processes, outputs, and outcomes with colleagues at local, state, multi-state, and national levels.
- Visible – interprets processes, outputs, and outcomes in a format that is understandable and accessible to partners and decision-makers.
- Effective – achieves outcomes that meet intended and unanticipated program objectives.
- Sustainable – develops and implements mechanisms to sustain the production of impacts over time, as appropriate to the duration and priority of a public need

MEASURABLES – was it worth it

Public relations professionals help refine important messages about water so they are useful to a broader group of people and assist in preparing informational materials, and placing promotional messages on key topics using all forms of traditional and social media. Another role is to assist with critical outreach on topics such as flood risk notifications to people who live in areas by substandard levees. These professionals are also routinely engaged to provide information on topics related to the need for investment in water systems.

Non-profit organizations can connect water managers to specific communities within the broader public. California has many diverse cultural communities, some of them also disadvantaged. Directly addressing and connecting with people within these cultures may require different skills than addressing the broad public. Inside their communities, people may have their own media or special emphases that aren't widely known outside their communities. Some professionals at non-profits or within water agencies have focused on developing connections within a cultural community, and learned how to craft messages and build processes that will bring members of a culturally distinct group into water management decisions.

Opinion polling and academic research is used by Outreach and Education professionals to learn more about what is important to key audiences and to identify the best practices for serving those audiences and stakeholders. Water educators also provide continuing education for water professionals in formal educational settings and through seminars, conferences and events. Academic re-

searchers study water conflicts to identify the sources of conflicts and underlying attitudes, and evaluate whether processes undertaken to reduce conflict are working.

There has been significant success in using Outreach and Education to ask individuals to change simple habits, such as turning off the water when brushing teeth, installing more efficient shower heads, or altering lawn watering practices. Outreach and Education has also been essential to creating a better understanding of flood risk in California, the importance of not adding contaminants to storm drains, and the need to maintain and invest in our water systems. With all its success Outreach and Education could be used more broadly, delivered more efficiently, better target and reach key audiences, and better support California's understanding of critical water issues. For example, the general public has limited understanding about the watersheds they live in, where their individual water comes from and where it goes when they have finished with it, and the degree of flood risk they may be exposed to.

Outreach and Education has contributed to broader use of cross disciplinary groups to resolve water issues and been the foundation of some significant water policy decisions in California as multiple interests have worked collaboratively to solve problems. Integrated Regional Water Management is now the policy direction of the state of California. To qualify for grant monies, water managers in Regions must coalesce with managers in related fields (such as supply-oriented districts with wastewater treatment districts) and local citizen groups. As they form new ways of working together to write plans, implement grant projects and raise matching funds, they have had to use more collaboration techniques than before. Grant funding has been available for the planning stage, which also develops collaboration skills and builds new capacity in water management personnel. A new emphasis on regional management also creates new demands for engagement tailored to local needs and practices.

Too theoretical, go more into techniques, what people can do and use. Ex, opinion polling, do a pre- and post- campaign so you can track trend. Talk about focus groups, get into more of the techniques that industry actually uses. Right now it is too general. Background, drill down a little bit more, what is the tipping factor that makes education so that people actually change.

Transition between the text and Climate Change is abrupt.

Writing case studies for OWOW's outreach effort, done in a very collaborative way, very concrete examples of how it was done. Text box with case study to populate this. Concrete examples.

Have more clarity to intended audience, is it to managers or to educators who are doing outreach. A useful tool could be the SFEI historical ecology study

Potential Benefits of Outreach and Education for Water Management in California

NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Explains the benefits of using Outreach and Education as a water management strategy
2. Sets the stage for recommendations that say things like - "do more of this."

Please read this section for:

- Accuracy
- Accessibility of language (is this written in the right tone and level for the intended audience?)
- Flow of text (does the flow generally make sense? Are things presented in a logical order?)
- Are all benefits captured here?

CAPTION - Storm drain stenciling is one way community members can participate in water quality activities.

Paints a hostile picture, of 'we're all just trying to prevent lawsuits and get our projects done' as we move into IRWM, don't want to set agency and public as hostile to each other. Maintain appropriate tone throughout chapter. (Seconded, don't know who it is written for – can be other people out there who disagree, tone that goes back and forth, more of a clear, who is this going to, get interests out up front.) Addressing competing interests, lots of things we want to do, limiting resources, people, time, funding, collaborate and be heard, have interests values and learn about other interests out there. Upfront, acknowledging conflicts, make more explicit, certain sections, can say, from community perspective, from engineer's perspective, integrate to come up with approach that meets needs (or tries to)

Public outreach and education produces two broad types of benefits: instrumental, outcome oriented, or intrinsic, process oriented. There are two ways that public involvement leads to instrumental outcomes. First, public involvement results in a citizenry who is more understanding and appreciative of the issue, and therefore makes more imformed~~thoughtful~~ decisions. Second, public involvement results in an agency that makes better decisions as a result of including public know-

ledge. In addition to instrumental outcomes, public involvement provides many intrinsic benefits, such as enhanced community capital.[1]

Public Involvement

A single regulatory agency or municipal office working alone cannot be as effective in achieving optimum water management as if it has the participation, partnership, and combined efforts of other groups in the community all working towards the same goal. The point of public involvement is to build on community capital—the wealth of interested citizens and groups—to help spread the message on water goals and actions to manage, restore and protect water resources.

Public involvement also includes facilitating opportunities for direct action, educational, and volunteer programs such as riparian planting days, volunteer monitoring programs, storm drain marking, or stream-cleanup programs. Groups such as watershed groups and conservation corps teams who want to participate in promoting environmental causes not all public has environmental causes as their priority, can be other important issues for families, (health, sustinence) should be encouraged and offered opportunities to participate in water ~~management~~. (Stewardship, are we really managing it, implies more control than we have.)

Outreach and Education starts to build the platform for a more sustainable future, by helping people take individual and collective action that supports more sustainable water outcomes. Children can participate as well, in class curricula built around stream monitoring and clean-up.

Encourage agencies to use multiple languages. Although that seems like a given, but agencies tend to be mono-lingual. There are substantial populations that speak predominately other languages, need to be addressed in language understandable to them. Disadvantaged communities and Tribes are different, Tribes are sovereign, have as separate heading.

Collaborative Policy Making

Much ~~Significant~~ research exists on the benefits of Outreach and Education and the collaborative and engagement methods it incorporates. While the time involved in engaging others may seem to slow down projects and programs up front, evaluations reveal that well delivered processes reduce the ultimate time to implementation of desired goals, reduce litigation, and significantly reduce unintended consequences of water policy decisions. In 2011, researchers (cite) conducted a study to determine whether citizen participation enhances performance of public programs and attainment of organizational goals, which was defined as increased efficiency and effectiveness. Researchers concluded that, “on average greater citizen engagement is strongly and significantly related to better performance of public agencies.” Such research is significant as it supports continued refinement and use of outreach practices. Evolving research on developing culturally appropriate outreach will also contribute better reaching communities in need of water information.

Outreach in the form of collaborative policy making results in improved decision making as

agencies learn more about what is of concern to stakeholders, and the full requirements of any particular watershed or system is revealed. Case study, and result, some sort of collaboration, no lawsuits)The Delta Stewardship Council is an example of a California state agency that has taken outreach to heart. As they grapple with writing a plan to address some of the most contentious water policy issues in California, they have made transparency and inclusion a high priority. The Delta Stewardship Council has released five drafts of their Plan as it was being developed. They've held workshops throughout the state to inform the interested public of the state of their work. They've solicited public comment, and posted all comment and much of the correspondence they've received. They have created a mass email list to keep people informed (the Delta eNews), and held blogger availability sessions in addition to press availability sessions. A statewide policy process, so it makes sense they've gone to that kind of effort, but that may not be appropriate for local project. Mention scale)

Youth Education

Combine other references here.

Implies that public education is just children, should say adults as well) Research indicates that public education on water use has significant return on investment as children may leverage activities at home and the behavior of adults they interact with. This shift in thinking will be increasingly important as California's growing population comes up against a finite water supply, and the state needs Why they should be more responsible in their own actions, go through those aspects themselves, but see cities sprawling makes it hard for citizens to understand why they should sacrifice when they see larger agencies What is community around water, not city or county, which may not host watershed, reach out to where water is coming from:

- More participation in conservation programs;
- More equitable and just usage and distribution of water, including environmental uses;
- Help with climate change adaptation and resilience;
- More aesthetic appreciation of water.

Mandated to put in textbooks, allow Indian communities their say in what happened in history, having historical perspective of water. Have environmental camps, put on camps for Indian children, teaching what water is, also given to all the kids in the valley they're from. Get Indian input into display about 100 years of LA aqueduct. Water needed by everything in life.

In the absence of a concerted outreach effort or collaborative policy-making, research and experience suggest that community members' opinions of water issues may be influenced by inaccurate perceptions of project risks or benefits; by whether the project is viewed as consistent with the community's long term goals; by social factors, such as the degree of trust placed in the project team and government agencies; and by the perceived equity in the process for developing a project. Media coverage; word-of-mouth; and information sources, such as blogs and other electronic media, often influence how individuals form opinions. Perceptions that may seem exaggerated from a technical point of view must be taken seriously. Perceived risks are no less "real" for purposes of

implementing a public outreach program. If these concerns are not addressed by water managers, they can rapidly transform into public opposition.

Two additional benefits, buy-in from the people who will pay for something. Also help agencies to make right decision, for example, if residents are not ready for new technology or resources, but have sunk millions into doing the capital, takes many years before customer will sign on. Need customer before you build the thing. DWR and ACWA have Save Our Water campaign.

Potential Costs of Outreach and Education for Water Management in California

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NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Answer the question "What does it cost to do Outreach and Education?"

This section needs to illustrate:

- Raw costs of working with professionals that do this
- Cost of setting up framework, structure (like library outreach section) and maintenance
- People who do participate, opportunity cost of people's time
- Costs of compiling and maintaining materials for public information. Special grants on DAC/EJ
- Costs of delay, in order to go through collaborative process first. Versus~~But~~, the costs of delay from not doing collaborative process and challenges to decisions.
- CEQA/NEPA/ public information campaigns for drought/Flex Your Power

WE NEED HELP FROM THE GROUP TO COMPILE SOME OF THE ABOVE INFORMATION.

Tie DSC in here, ask them for costs of outreach, WebEx, flyers, eNews, again mention scales. Poses costs to taxpayer,

Provide for recreational use of water access, as way for outreach.
Opportunity costs for participants, K12 education, teachers have an opportunity cost, if they teach water they aren't teaching something else. Have to acknowledge.

Researchers note that, "participation is time consuming and has the potential to slow down decision making since the public needs to be informed and even educated first in order to meaningfully participate in administrative processes."[1]

Public participation efforts can produce a venue for non-representative private interests to sway administrators actions in a different direction than the broad public interest.[2]

The costs of doing significant, well delivered Outreach and Education are small compared to the usual costs of building and maintaining water infrastructure.

Climate Change (under Major Benefits)

Climate change can be a polarizing topic resulting in mixed messages and confusion. Even the term "climate change" can deter some from discussing the problems that climate change can bring and from investigating potential solutions to mitigate and prepare for these environmental changes. In addition, many people still tend to view climate change impacts and solutions as global rather than local. Regardless of whether people believe the cause of climate change to be anthropogenic or that climate change is not a local issue, California's water resources are being impacted by changes in climate. Sea levels are rising, snowpack is decreasing, and water temperatures are increasing. These changes affect the ability for the State to ensure reliable water supplies and water quality, to manage floods, and to protect ecosystem functions and critical habitats. California's watersheds are vulnerable to climate change. Our local land-use choices, water resource planning, and hazard mitigation approaches must take climate change communication into account.

Adaptation and Mitigation

Outreach and education are critical components to adapting to climate change. This Outreach and Education RMS can improve communication with the public, governmental agencies, industry and businesses, and non-profit organizations about California's water resources susceptibility to climate change. Public engagement helps educate and build commitment and consensus among decision-makers and community members. Developing a consistent message about the State's vulnerabilities to climate change is crucial. Consistent messaging across media platforms reaches a wide audience; a website to address water management issues, to highlight emergencies, and to provide guidance, social media, alerts, webinars, and town hall meetings can be effective. An outreach and education program also should highlight the multiple benefits that can result from implementing a variety of water management strategies that complement adaptation strategies and should build on existing relationships with local communities. However, it is important that communication not be one-sided and that we solicit input and provide a means for feedback. Communities need to develop and own their choices and have a vested interest in their water resources decisions. Framing the issues in terms of local impacts and solutions can strengthen communication. Adapting to the impacts of climate change will continue to be an ongoing process. Therefore, it will be critical to improve the

accessibility of information, to improve monitoring, to work together across institutional and social boundaries, and to leverage resources.

Mitigation is accomplished by reducing or offsetting greenhouse gas (GHG) emissions in an effort to lessen contributions to climate change. The Intergovernmental Panel on Climate Change (IPCC) relates anthropogenic GHG emissions to climate change (IPCC, 2007). Educating the public about mitigating climate change and reducing communities' carbon footprint is necessary. The costs of adaptation are far greater than the costs to reduce potentially causative agents specific examples, over all it would be, but maybe not at a community level. Offering locally relevant education of water managers to encourage climate change mitigation in planning will help them identify the best co-benefits for their community.

Public benefits of mitigating climate change at the community level can be improve air quality, provide cleaner, more reliable water, and lower rates of illness. Promoting these co-benefits will encourage public acceptance and investment in mitigation strategies. Getting the public to understand the importance of lowering their GHG emissions through access to information, public awareness, and education will foster empowerment and ownership. Education has a central role in mitigating climate change. Instilling awareness at a young age will shape the attitudes and behaviors of the next generation. Developing a K-12 outreach program that works within the school as part of curriculum can help disseminate knowledge through the community effectively.
Good to get away from Global Warming, but Climate Change may also be a trigger. No one can deny that there have been other climate cycles.

Major Issues Facing Outreach and Education about Water

NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Explains the major issues facing use of Outreach and Education in water management
2. Sets the stage for recommendations that say things like - "do this _____ to overcome this particular issue."

Please read this section for:

- *Accuracy*
- *Accessibility of language (is this written in the right tone and level for the intended audience?)*
- *Flow of text (does the flow generally make sense?*

Give context, complexity and uncertainty, both of those affect how education population, they may be looking for an answer, but we recognize the complexity and uncertainty.

Section of disinterest on water users behalf, started forming IRWMP, trying to get citizen participation, "that's what I pay you for", attitude should be acknowledged.

Widespread lack of understanding of water management:

A major challenge for Outreach and Education efforts is the current lack of understanding about water management in general. There is a significant lack of understanding by Californians about the physical water system. Although there is often a vague sense that water is scarce and important, even important enough to fight over, many stakeholders and the public do not have much understanding of the physical or governance system that delivers water to them. Many if not most Californians do not know how water gets to them, or the features of the water landscape around them. People do not know their individual water sources, so they don't know how or why those sources should be protected. In a recent survey, 78% of Californians did not know what the Bay-Delta is, despite its function as the hub of California's two major water projects.[iii]

Complex governance structure:

At a local level, few people are able name their particular water sources or their district's board members or managers. California's water right's structure is very difficult to understand and apply to individual situations. As people become interested in water policy, they report that the state level governance structure is bewilderingly complicated, with multiple agencies parting out different pieces of water management. Because they are disengaged from these systems, they don't know how to get involved in public policy making or discussions~~disputes~~. Stakeholders that are not professional issue advocates want to be involved but don't know enough about how the agency works to participate in a meaningful way. Often, these stakeholders say they don't even know what questions to ask. They may attend meetings only to find that the topic is related, but the agenda is narrowly focused on a specific topic they do not have the background to understand. On the flip side, there is also a need for state employees to work with interested stakeholders by providing useful information and considering the public's comments. Lack of understanding by general public, but one of the reasons the Tribes are here (and putting on Water Summit) the Tribes feels that the State governing bodies themselves don't understand their rights, and the rights Tribes have never relinquished, becomes very complex.

(Recommendation: Should the Water Plan recognize the need to educate the stakeholders on the state government, its BDOs, what they do and how they handle public participation?)

The public underestimates risk:

(Change tone)

Because people are largely unaware of their local watershed and water delivery systems, they may underestimate the level of risk they face. They may choose to live in vulnerable rural water systems without understanding that their water source is variable or that they have bought into under-maintained water systems. They may choose to live on floodplains without a good understanding of what flood risk involves, or with the erroneous assumption that the local levees absorb all flood risk. They can become angered when the risk turns into a reality they are unprepared to face, or when told about the costs of addressing the risk. Alerting homeowners about risk takes extensive public outreach campaigns.

(Recommendation: Address through realtors. Tahoe: stormwater practices on every parcel. Realtor must inform next owner. Bring into larger REC about doing outreach through non-traditional professionals.)

Reaching diverse communities:

Another significant challenge relates to the varied cultural and geographic diversity of the State's residents. Outreach and Education tools should not be limited by an assumption that a campaign that would reach the mainstream culture would reach other diverse cultures equally well. Many current methods do not address these more diverse needs. Much progress is being made in this area with the use of pilot projects and other innovative programs (examples) but more is needed. Use San Diego example of changing message about indirect potable re-use, this time more publicly accepted as people realize need for more water supplies.

Water managers may not want to use Outreach and Education:

Staffing and funding constraints, recommending re-naming to water agency resources limitations Concept of capacity, leads toward a recommendation to partner with academic or NGO, leads to inviting educators, UC, CalState, community colleges and private universities to come to the table, give a good clear idea why they're there.

Some agencies and decision makers may not see value in Education or Outreach, and underestimate the importance of the tool and the need to build it into the overall project or policy approach rather than add it on later because of public outcry. More and more agencies are gaining a better understanding but with shrinking resources and often crushing timeframes for resolving urgent issues, Outreach and Education does not always gain the priority it should. Outreach and Education may present up-front costs that do not offer immediate or tangible benefits. Or, water managers may perceive Outreach or collaboration as surfacing controversy they do not want to be involved with. Finally, people who get assigned to do Outreach and Education aren't necessarily professionals in that discipline. Needs lead-in or leave at previous sentence.They may be engineers from within the agency who struggle with new communication skills, or don't enjoy interacting with the public.

The overall approach to Outreach and Education is sometimes misguided. In some cases it would be more practical for academic institutions or non-governmental organizations to assume the role of delivering these services rather than water (including flood) agencies. This type of approach is par-

ticularly effective when significant resources and relationships already reside in the sister organizations.

A flood of Outreach and Education materials:

Conflicting messages are more damaging, during drought, they were relieved to hear about rains, but that created message confusion for flood district.

In some cases there is too much information about Outreach and Education tools without good guidance to the best applications of the tools and/or the validity of the approaches as a best practice. For example a number of efforts have resulted in success but could have been delivered more effectively and efficiently. In other cases, selecting the wrong tools or application of tools incorrectly results in building cynicism and making future outreach even more difficult. This type of error has profound implications for issues where conflict resolution is required. Many different organizations have developed Outreach materials and curricula. Searching and selecting among them can be daunting, as can choosing the right materials for the situation facing the water district or agency. Well intentioned agencies and decision makers, looking at the wide variety of tools are known to prescribe a tool to their Outreach and Education personnel that appear to work well from all the papers, books and other materials but may or may not be the right tool for a particular effort. Without some well organized or professionally evaluated assessment of information, selection of these methods by non-professionals can have negative results.

Distrust of government and science: Dispelling

A current issue facing water managers is a small but vocal part of the population has come to hold increasingly strong beliefs about governance and water related topics such as climate change. This active minority doubts or rejects the legitimacy of some planning efforts beyond local government and the science that supports decision making. This level of skepticism makes public policy making difficult. As this group has become more politically involved, they have disrupted public meetings, and delayed planning efforts. A mistrust of science requires evidence of fact finding beyond a level of certainty that satisfies most academics, scientists, and technical experts. New requirements for fact finding can take considerable time and money to develop. As long as this mistrust persists, education and outreach efforts may be perceived and labeled as 'propaganda'. Other concerns about why governmental agencies aren't trusted, broader this paragraph implies, they have different objectives, so wider than this paragraph says. Immigrant communities distrust govt, often parallel communities, have to have different tacts. Water rights factors in as well, small water system, have to meter new well, scared of being tracked, start reporting use, leverage to not allow access. Distrust of agenda of scientists and where they start from, why doing study. Agenda of elected

(More important aspect of whole water plan – who are you writing this for, get point across)

Victims of success: (possible text box, case study, one specific, before risk, more fundamentally, in large agencies have done a good job providing reliable supply and therefore public doesn't appreciate risk)

An odd but real challenge is achieving success in Outreach and Education without also considering the consequences of success. During the 2006-2009 drought, some districts who did extensive water conservation public information campaigns were caught off-guard by more response (a sharper drop in per capita water use) than they were prepared for. (Also economy and five years of cooler weather) Some districts found that their rate structure required that people use water at their historical levels to cover the fixed costs of delivery infrastructure. When they ran an effective water conservation public information campaign, constituents weren't buying enough water from them to cover their fixed costs. They were forced to increase their base rates, leading to the unpopular perception that people were being punished for conserving water. This created resentment and the perception that rates were being set in an arbitrary fashion for the benefit of the agency. Created resentment. Rules are being made in an arbitrary fashion, for the benefit of the agency (people as employees.) In cases like this, water districts weren't prepared for their public information campaigns to be successful and change people's water use . (Combination of many factors, some areas saw a little more problem then anticipated)

Currently, many outreach and education program do not include a component to measure effectiveness possibly because of the difficulty to do so. Often when money is tight, the first things to go are educational programs. So there is a need to be able to quantify the effectiveness of education and outreach to demonstrate the value of these programs. One of the tools most often used is surveys before and after the intervention to measure the increase of awareness. In addition to awareness, there is a need to measure behavior changes. One way to measure urban water conservation is to measure the overall reduction in water use which can be used to calculate the value of water saved. For other messages, effectiveness monitoring could be more challenging. However, the importance of these messages supports the need to develop monitoring techniques.

Own heading

A final and difficult challenge is the often bewildering complexity involved in addressing water management issues. Creating or defining a clear public message, something that can be incorporated in a 30 second sound-bite is a challenge. A simple message is inadequate for the situation; but required to reach an audience. While achieving the results of these simplified messages can be very important, it is often not enough to solve the problems. In this scenario, water managers may not understand the need to conduct Outreach and Education at multiple levels, at multiple times, and using multiple messages. Not necessary, that's why hire professionals.

Organization bounces around, challenges that public faces and what water managers face.

Recommendations to Facilitate Outreach and Education about Water

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NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Must enhance benefits or reduce cost
2. Must include actor who will implement
3. Prefer measurable recommendations

WE NEED HELP FROM THE GROUP TO COMPILE SOME OF THE ABOVE INFORMATION.

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Personal Communications

End references for any personal communications you are citing in your text appear here.

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[i] http://www.iap2.org, http://www.iap2.org/associations/4748/files/IAP2%20Spectrum_vertical.pdf